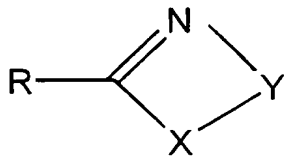
THE CLAIMS.

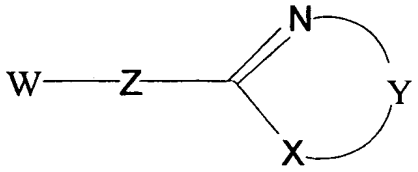
1. A compound of the formula I:



I

where R is the residue of an organic compound, X is O or S and Y is a divalent group making up a 5 or 6 membered ring, which compound has a selectivity for an Ox receptor over one or both of the α_2- and I_2- receptors of greater than 1.

2. A compound according to claim 1 which is a compound of formula II



II

wherein W is optionally substituted aryl, optionally substituted C_5-C_7 cycloalkyl or -CHR^1R^2 where R^1 and R^2 are independently selected from hydrogen, optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_7 cycloalkyl, optionally substituted aryl, and OR′ where R′ is optionally substituted aryl, optionally substituted C_3-C_7 cycloalkyl or optionally substituted C_1-C_6 alkyl, provided that both of R^1 and R^2 are not both hydrogen, Z is imino, C_1-C_2 alkylene, -CH_2NH- or -CH_2CH_2NH-, X is O or S, and Y is optionally substituted C_2-C_4 alkylene, provided that W is not OR′ when Z is imino or -CH_2NH-.

3. A compound of claim 2 wherein W is aryl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy); C_5-C_6 cycloalkyl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy); or -CHR^1R^2 where R^1 and R^2

are independently selected from hydrogen, C_1-C_6 alkyl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy), C_3-C_6 cycloalkyl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy), aryl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy), and OR where R is aryl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy), C_3-C_6 cycloalkyl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy), or C_1-C_6 alkyl (optionally substituted with hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl or aryloxy); provided R^1 and R^2 are not both hydrogen.

4. A compound of claim 2 or claim 3 where W is phenyl or cyclohexyl, naphthyl, each of which may be optionally substituted with one to three substituents selected from hydroxy, methoxy, ethoxy, benzyloxy, NO_2, NH_2, halogen, methyl and ethyl; or -CHR^1R^2 where R^1 and R^2 are independently selected from phenyl, naphthyl, cyclohexyl, cyclopentyl, cyclobutyl, cyclopropyl, methyl, ethyl, propyl and butyl, each of which may be optionally substituted with hydroxy, methoxy, ethoxy, benzyloxy, NO_2, NH_2, halogen, methyl and ethyl, provided R^1 and R^2 are not both hydrogen.

5. A compound of any one of claims 2 to 4 wherein Z is imino or -CH_2CH_2NH-.

6. A compound of any one of claims 1 to 5 wherein X is oxygen.

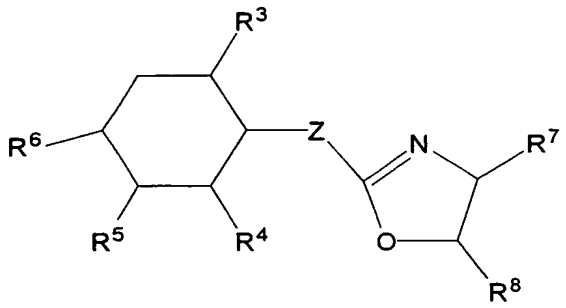
7. A compound of any one of claims 1 to 6 wherein Y is C_2-C_4 alkylene optionally substituted with C_1-C_4 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkanoyloxy or C_1-C_6

alkyloxycarbonyl, or with two substituents which join together to form a 5-6 numbered carbocyclic on heterocyclic ring.

8. A compound of claim 7 wherein Y is unsubstituted C_2-C_4alkylene.

9. A compound of claim 8 wherein Y is ethylene.

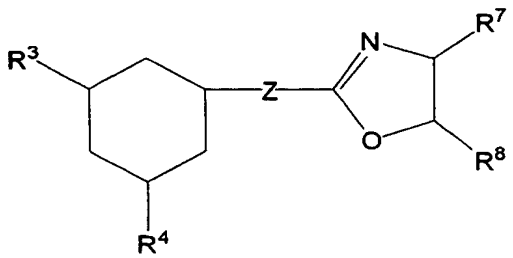
10. A compound according to claim 1 which is a compound of formula III:



III

wherein R^3, R^4, R^5 and R^6 are independently selected from hydrogen, hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, aryloxy, Z is imino, C_1-C_2 alkylene, or $-CH_2CH_2NH-$, R^7 and R^8 are independently selected from hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkanoyloxy or C_1-C_6 alkyloxycarbonyl or R^7 and R^8 may together form a 5 or 6 aromatic or non-aromatic membered carbocyclic or heterocyclic ring.

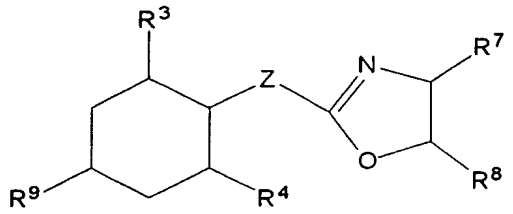
11. A compound according to claim 1 which is a compound of formula IV:



IV

where R^3, R^4, R^7 and R^8 are as defined in claim 10.

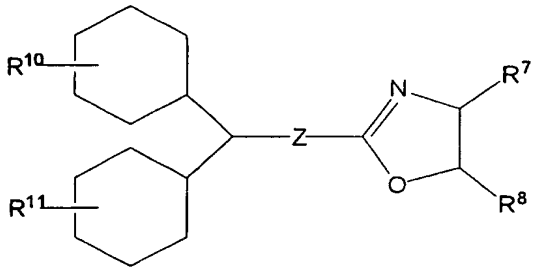
12. A compound according to claim 1 which is a compound of formula V:



V

where R^3, R^4, R^7, R^8 and Z are as defined as claim 10, and R^9 is C_1-C_4 alkyl or C_1-C_4 alkoxy.

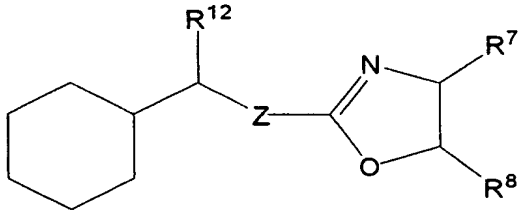
13. A compound according to claim 1 which is a compound of formula VI:



VI

where R^7, R^8 and Z are as defined in claim 10 and R^{10} and R^{11} are independently selected from hydrogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl and aryloxy.

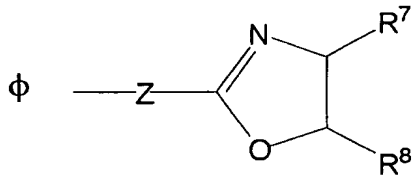
14. A compound according to claim 1 which is a compound of formula VII



VII

where R^7, R^8 and Z are as defined in claim 10 and R^{12} is hydrogen optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_7 cycloalkyl or optionally substituted aryl.

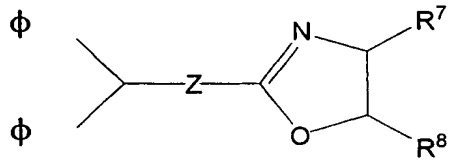
15. A compound according to claim 1 which is a compound of formula VIII:



VIII

where ϕ is optionally substituted aryl and R^7, R^8 and Z are defined in claim 10.

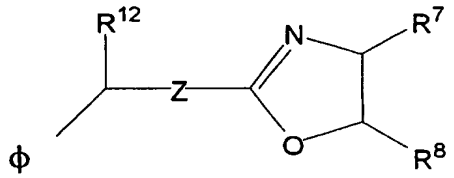
16. A compound according to claim 1 which is a compound of formula IX:



IX

where R^7, R^8 and Z and ϕ are as defined in claim 15.

17. A compound according to claim 1 which is a compound of formula X:



X

where R^7, R^8, R^{12} and Z are as defined in claim 14 and ϕ is as defined in claim 15.

18. A compound according to any one of claims 15 to 17 where ϕ is phenyl or

naphthyl either of which may have one to four substituents selected from hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, NO_2, NH_2, C_1-C_6 haloalkyl, halogen, C_3-C_6 cycloalkyl, aryl, C_2-C_6 alkenyl, C_2-C_6 alkynyl and aryloxy.

19. A compound according to any one of claims 1 to 18 having a selectivity of greater than 3 over one or both of α_2- and I_2- receptors.

20. A compound according to any one of claims 1 to 19 having a selectivity for the Ox receptor over both the α_2- and I_2- receptors of greater than 1.

21. A compound according to any one of claims 1 to 20 having a selectivity for the Ox receptor over the I_1 receptor of greater than 1.

22. A compound according to any one of claims 1 to 21 when used to bind to and/or modulate the activity of an Ox receptor.

23. A compound of any one of claims 1 to 21 which is an agonist of Ox receptor activity.

24. A compound of any one of claims 1 to 21 which is an antagonist of Ox receptor activity.

25. A modulator of Ox receptor activity which is a compound of any one of claims 1 to 21.

26. Use of a compound of any one of claims 1 to 21 to bind to and/or modulate the activity of Ox receptor.

27. An isolated Ox receptor in sequencably pure form.

28. An isolated Ox receptor characterised by a high binding affinity for O501 and a poor binding affinity for methoxyidazoxan, clonidine and idazoxan.

29. An isolated Ox receptor characterised by having a binding affinity for O501 of 1 to 500 nM and affinities for methoxyidazoxan, clonidine and idazoxan of greater than 1000.

30. A receptor according to claim 29 characterised by having a binding affinity for O501 is between 10 and 100 nM and affinities for methoxyidazoxan, clonidine and idazoxan is greater than 5000 nM.

31. An isolated nucleic acid molecule which encodes an Ox receptor as claimed in any one of claims 27 to 30.

32. A recombinant plasmid, cosmid, bacteriophage or other recombinant molecule comprising a nucleic acid molecule according to claim 31.

33. A method for identifying a modulator or Ox receptor activity, said method comprising assaying recombinant Ox receptor activity in the presence of a potential modulator and comparing said activity to the activity of recombinant Ox receptor in the absence of said potential modulator.

34. A method according to claim 33 wherein the recombinant Ox receptor is obtained by expressing a functional recombinant Ox receptor polypeptide in a cell for a time and under conditions sufficient for said polypeptide to be produced in an assayable quantity.

35. A composition comprising a compound according to any one of claims 1 to 21 and a pharmaceutically acceptable carrier or diluent.

36. A method for the treatment of diseases of the central nervous system, cardiovascular system, or the kidney, or diseases associated with abnormal adrenal gland secretions which comprises administering an effective amount of a compound of any one

of claims 1 to 21 or a pharmaceutically acceptable salt or ester thereof to a subject in need thereof.

37. A pharmaceutical composition for the treatment of diseases of the central nervous system, cardiovascular system, or the kidney, or diseases associated with abnormal adrenal gland secretions comprising a compound of any one of claims 1 to 21 or a pharmaceutically acceptable ester or salt thereof together with a pharmaceutically acceptable carrier or diluent.

38. Use of a compound of any one of claims 1 to 21 in the manufacture of a medicament for the treatment of diseases of the central nervous system, cardiovascular system, or the kidney, or diseases associated with abnormal adrenal gland secretions.

39. Use of a compound of any one of claims 1 to 21 as an agonist or antagonist to the Ox receptor.

40. Use of a compound of any one of claims 1 to 21 or a pharmaceutically acceptable salt or ester thereof in the treatment of hyperglycaemia, glaucoma, peptic ulcer or in the production of analgesia.